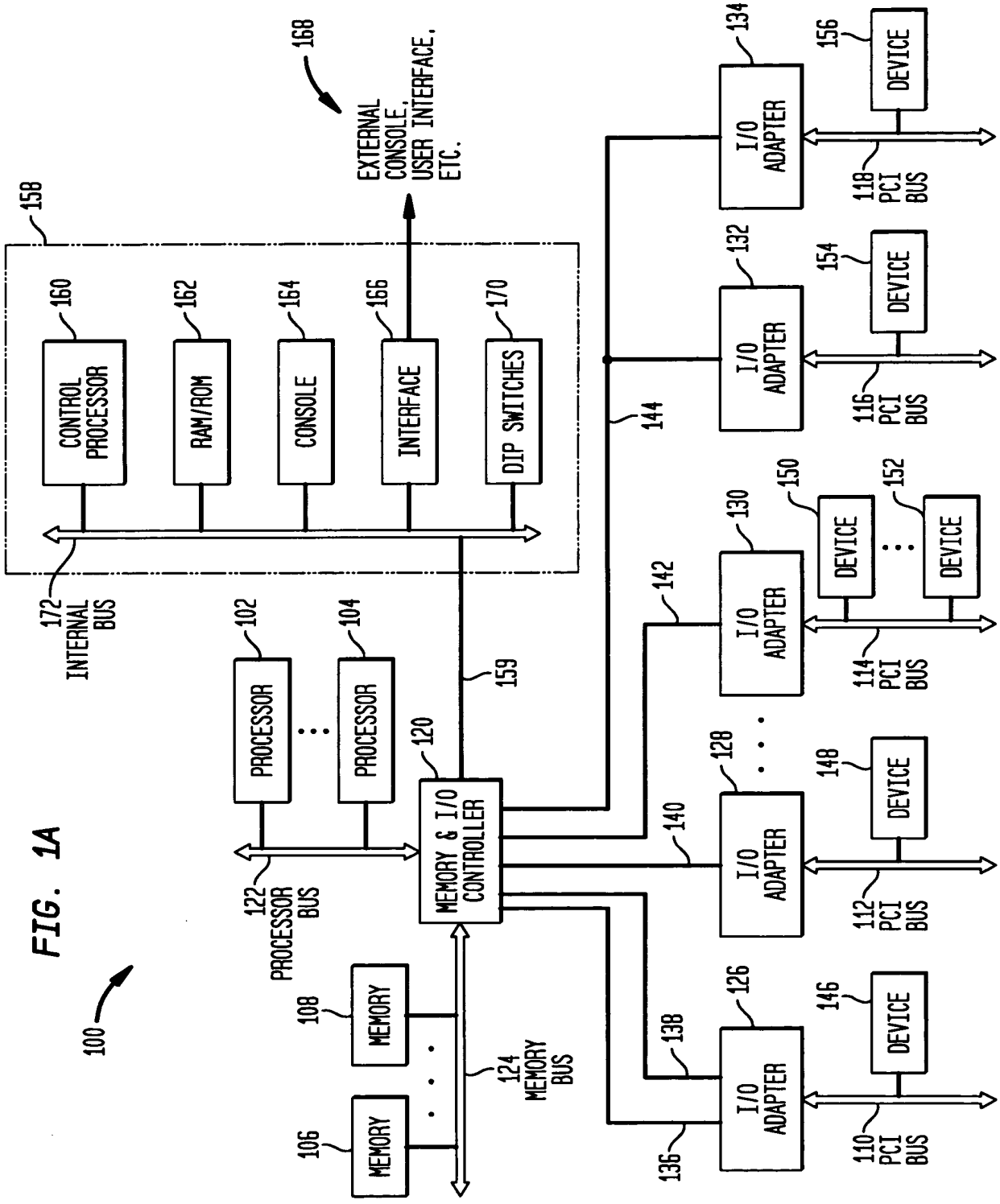

100
158
160
CONTROL PROCESSOR
162
RAM/ROM
164
CONSOLE
166
INTERFACE
170
DIP SWITCHES
168
EXTERNAL CONSOLE, USER INTERFACE, ETC.
172
INTERNAL BUS
159
102
PROCESSOR
104
PROCESSOR
122
PROCESSOR BUS
120
MEMORY & I/O CONTROLLER
108
MEMORY
106
MEMORY
124
MEMORY BUS
140
142
144
130
I/O ADAPTER
132
I/O ADAPTER
134
I/O ADAPTER
126
I/O ADAPTER
128
I/O ADAPTER
138
136
150
DEVICE
152
DEVICE
154
DEVICE
156
DEVICE
148
DEVICE
146
DEVICE
114
PCI BUS
116
PCI BUS
118
PCI BUS
112
PCI BUS
110
PCI BUS

FIG. 1A

FIG. 1B

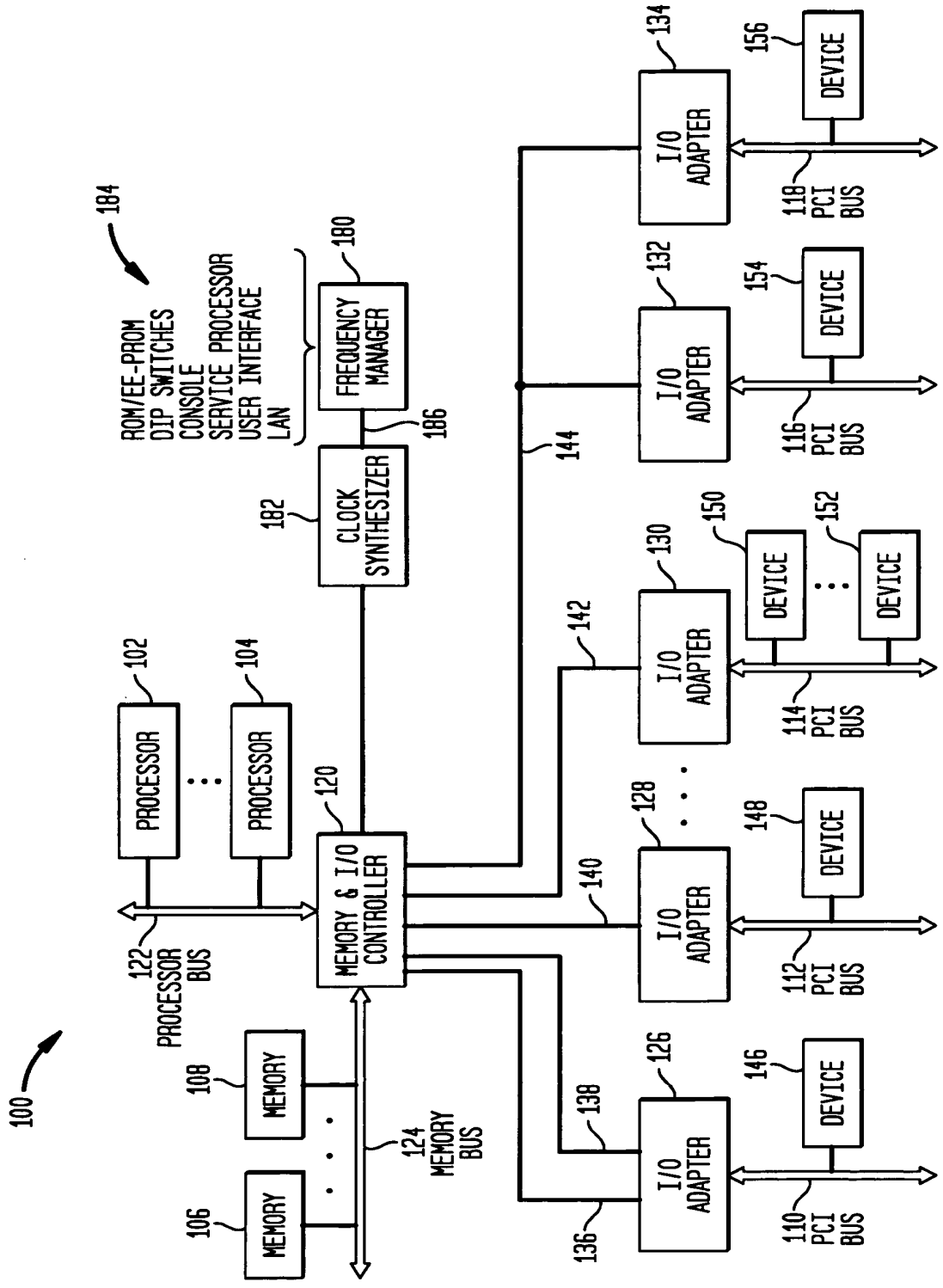

100
184
ROM/EE-PROM
DIP SWITCHES
CONSOLE
SERVICE PROCESSOR
USER INTERFACE
LAN
180
FREQUENCY MANAGER
186
182
CLOCK SYNTHESIZER
102
PROCESSOR
104
PROCESSOR
120
MEMORY & I/O CONTROLLER
122
PROCESSOR BUS
108
MEMORY
106
MEMORY
124
MEMORY BUS
144
142
140
138
136
130
I/O ADAPTER
128
I/O ADAPTER
126
I/O ADAPTER
132
I/O ADAPTER
134
I/O ADAPTER
150
DEVICE
152
DEVICE
148
DEVICE
146
DEVICE
154
DEVICE
156
DEVICE
114
PCI BUS
112
PCI BUS
110
PCI BUS
116
PCI BUS
118
PCI BUS

FIG. 2

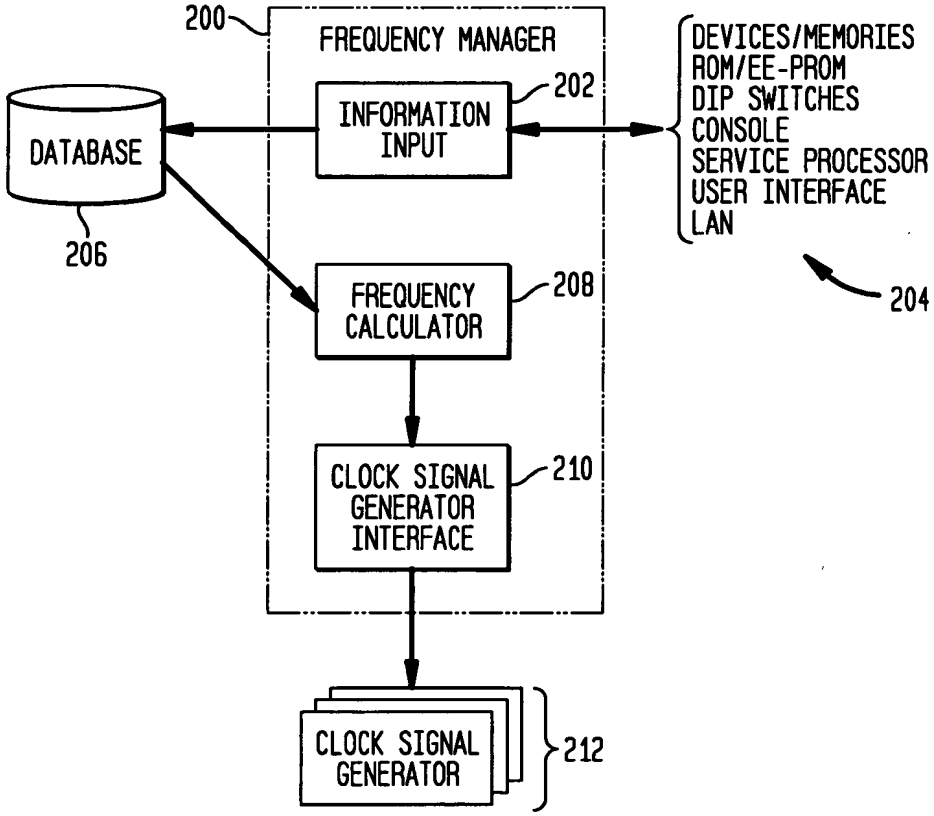

200
FREQUENCY MANAGER
INFORMATION INPUT
202
DATABASE
206
FREQUENCY CALCULATOR
208
CLOCK SIGNAL GENERATOR INTERFACE
210
CLOCK SIGNAL GENERATOR
212
DEVICES/MEMORIES
ROM/EE-PROM
DIP SWITCHES
CONSOLE
SERVICE PROCESSOR
USER INTERFACE
LAN
204

FIG. 3

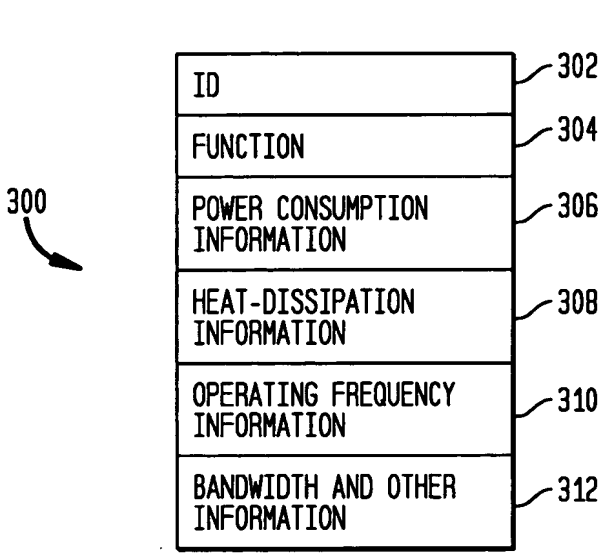

DEVICE/MEMORY INFORMATION
300
ID
302
FUNCTION
304
POWER CONSUMPTION INFORMATION
306
HEAT-DISSIPATION INFORMATION
308
OPERATING FREQUENCY INFORMATION
310
BANDWIDTH AND OTHER INFORMATION
312

FIG. 4

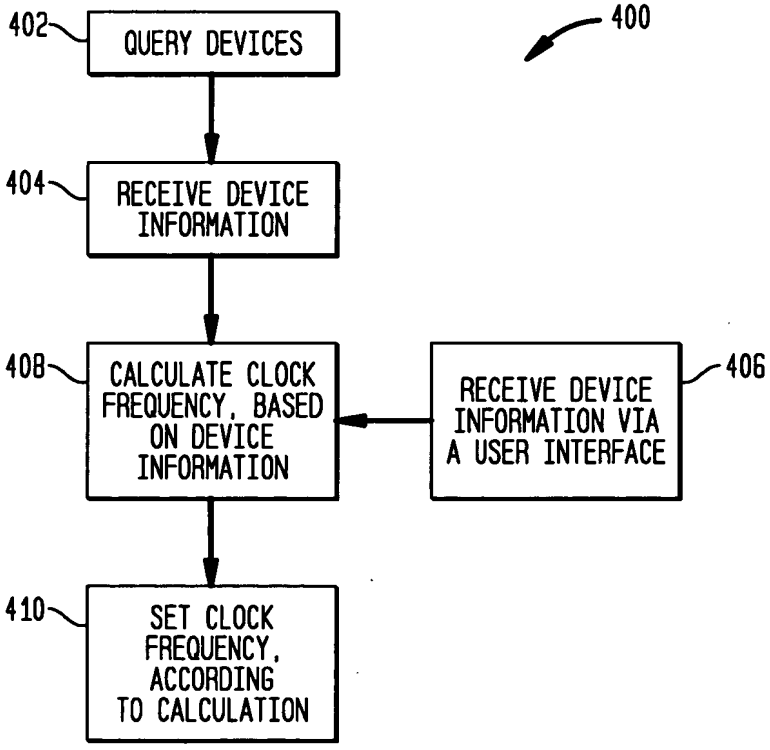

400
402
QUERY DEVICES
404
RECEIVE DEVICE INFORMATION
408
CALCULATE CLOCK FREQUENCY, BASED ON DEVICE INFORMATION
406
RECEIVE DEVICE INFORMATION VIA A USER INTERFACE
410
SET CLOCK FREQUENCY, ACCORDING TO CALCULATION

FIG. 5

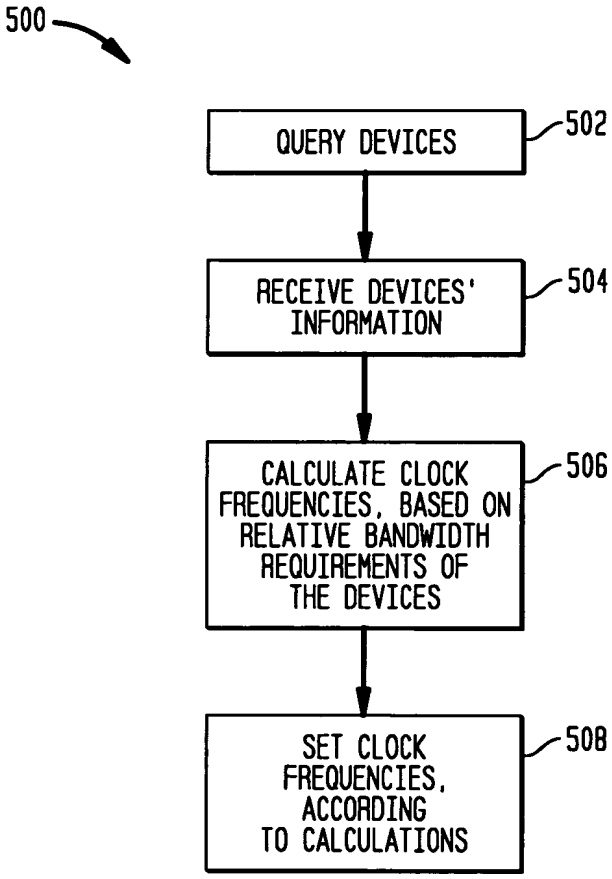

500
QUERY DEVICES
502
RECEIVE DEVICES' INFORMATION
504
CALCULATE CLOCK FREQUENCIES, BASED ON RELATIVE BANDWIDTH REQUIREMENTS OF THE DEVICES
506
SET CLOCK FREQUENCIES, ACCORDING TO CALCULATIONS
508

FIG. 6

APPLICATION PROGRAM INFORMATION

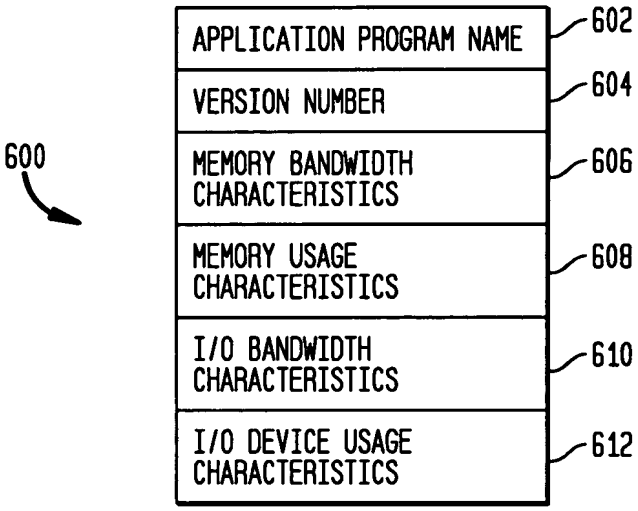


FIG. 7

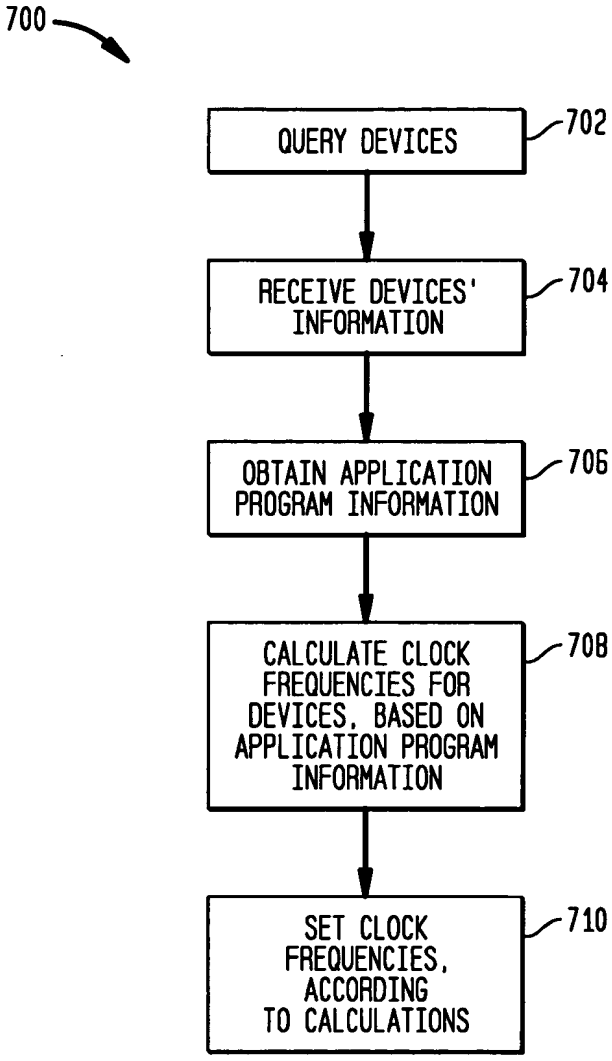
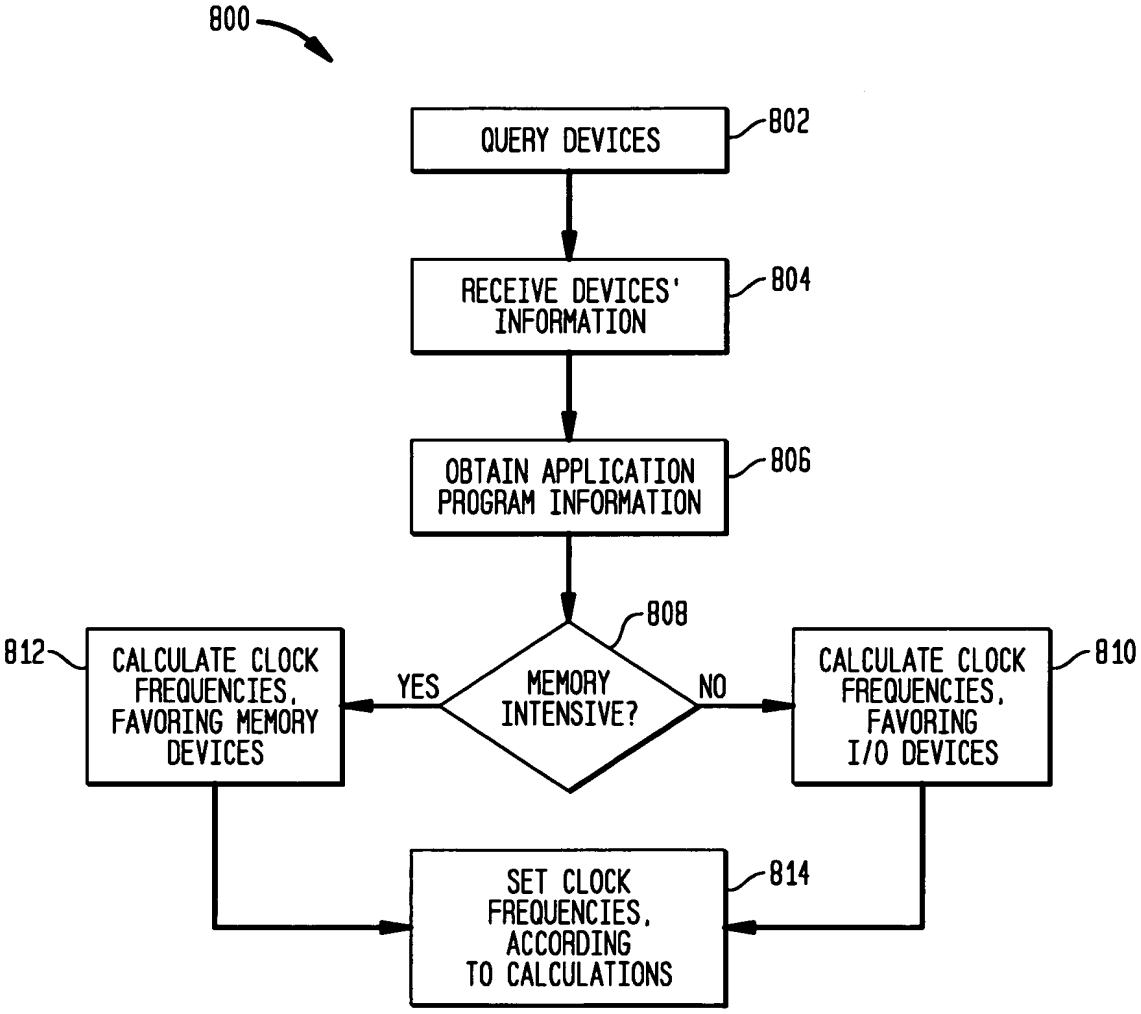

700
QUERY DEVICES
702
RECEIVE DEVICES' INFORMATION
704
OBTAIN APPLICATION PROGRAM INFORMATION
706
CALCULATE CLOCK FREQUENCIES FOR DEVICES, BASED ON APPLICATION PROGRAM INFORMATION
708
SET CLOCK FREQUENCIES, ACCORDING TO CALCULATIONS
710

FIG. 8


800
QUERY DEVICES
802
RECEIVE DEVICES' INFORMATION
804
OBTAIN APPLICATION PROGRAM INFORMATION
806
808
MEMORY INTENSIVE?
YES
NO
812
CALCULATE CLOCK FREQUENCIES, FAVORING MEMORY DEVICES
CALCULATE CLOCK FREQUENCIES, FAVORING I/O DEVICES
810
SET CLOCK FREQUENCIES, ACCORDING TO CALCULATIONS
814